

WHAT IS CLAIMED IS:

1. An electrophoretic apparatus comprising:

an electrophoretic member in which a disk-shaped member thereof has
5 one or a plurality of passages formed therein and also such holes reaching the
passage that is formed at positions corresponding to both ends of the passage on
one surface of the disk-shaped member;

a voltage applying part for applying a voltage across the passage of the
electrophoretic member;

10 a detecting part for detecting a specimen present in the passage of the
electrophoretic member; and

an electrophoretic-member holding part for holding a plurality of the
electrophoretic members engaged in simultaneous electrophoretic operations.

2. The electrophoretic apparatus according to claim 1, wherein:

the electrophoretic-member holding part holds a plurality of the
electrophoretic members on a planar member to rotate a plurality of the
electrophoretic members therein, thus sequentially locating one end of each of the
passages of a plurality of the electrophoretic members at a specimen dispensing
20 position; and

a dispensing mechanism is further provided for dispensing a specimen
into the hole corresponding to one end of the passage positioned at the specimen
dispensing position.

3. An electrophoretic apparatus comprising:

an electrophoretic member in which a disk-shaped member thereof has
one or a plurality of passages formed therein and also such holes reaching the
passage that is formed at positions corresponding to both ends of the passage on
one surface of the disk-shaped member;

30 a voltage applying part for applying a voltage across the passage of the
electrophoretic member; and

a detecting part for detecting a specimen present in the passage of the electrophoretic member,

wherein the detecting part consists of a fluorescent-light detecting device for detecting a fluorescent light in a detection range, the fluorescent-light detecting device comprising

a first optical system for focusing, for image formation, a light from the detecting range into a slit hole; and

a second optical system provided with a reflection-type diffraction grating, for separating a light from the slit hole and focusing the light, for image formation, onto a detecting element.

4. The electrophoretic apparatus according to claim 3, comprising a reflection-type concave grating as the reflection-type diffraction grating, wherein the second optical system consists of only the reflection-type concave grating.

5. The electrophoretic apparatus according to claim 3, further comprising a specimen-injection monitor mechanism for detecting a specimen at a site where a specimen is injected into the passage.

6. The electrophoretic apparatus according to claim 5, wherein the specimen-injection monitor mechanism and the detecting mechanism are each provided with a fluorescent-light detecting optical system, which shares a common excitation light source in use.

7. The electrophoretic apparatus according to claim 5, wherein the specimen-injection monitor mechanism is provided with a detecting optical system having an LED as a light source thereof.

8. The electrophoretic apparatus according to claim 5, wherein:
the electrophoretic member is provided as the passage with a specimen injection passage and a separation passage which intersect with each other, and

the apparatus further comprises a control part for permitting the voltage applying part to supply a voltage for guiding a specimen to an intersection between the specimen injection passage and the separation passage, and for once stopping the electrophoretic apparatus in case that a specimen distribution in a predetermined range along the specimen injection passage detected by the specimen-injection monitor mechanism is not uniformed even after a predetermined time has elapsed.

9. The electrophoretic apparatus according to claim 5, wherein:
the electrophoretic member is provided as the passages with a specimen injection passage and a separation passage which intersect with each other, and the apparatus further comprises a control part for once stopping the electrophoretic apparatus in case that a specimen present at an intersection between the specimen injection passage and the separation passage detected by the specimen-injection monitor mechanism when an electrophoretic voltage for specimen separation is applied by the voltage applying part fails to electrophoretically migrate into the separation passage.

10. An electrophoretic apparatus comprising:
an electrophoretic member in which a disk-shaped member thereof has one or a plurality of passages formed therein and also such holes reaching the passage that is formed at positions corresponding to both ends of the passage on one surface of the disk-shaped member;
a voltage applying part for applying a voltage across the passage of the electrophoretic member;
a detecting part for detecting a specimen present in the passage of the electrophoretic member;
an electrophoretic-medium filling mechanism for filling an electrophoretic medium into the passages and the reservoirs through the reservoirs of the electrophoretic member and a specimen injection mechanism for injecting a specimen into one of the reservoirs, and

a control part for controlling the electrophoretic apparatus including the mechanisms so that they all may operate automatically.

11. The electrophoretic apparatus according to claim 10, further comprising an electrophoretic-medium sucking mechanism for removing an electrophoretic medium contained in the reservoirs and a buffer-liquid injecting mechanism for injecting a buffer liquid into the reservoirs after the electrophoretic medium is removed therefrom, wherein

the control part controls the electrophoretic-medium sucking
10 mechanism and the buffer-liquid injecting mechanism as well so that they may
operate automatically.

12. The electrophoretic apparatus according to claim 10, further comprising a specimen sucking mechanism for removing a specimen left in the reservoirs after the specimen is injected into the passages, wherein

the control part controls the specimen sucking mechanism as well so that it may operate automatically.